

REVIEW

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REGARDING

The acquisition of the scientific and educational degree of "Doctor" by Dr. Vilislava Robert Ivanova, in the field of higher education 7. Public health and Sports, professional direction 7.1 Medicine, and scientific specialty "Obstetrics and Gynaecology"

Dissertation title:

"PROPHYLACTIC ULTRASOUND EXAMINATION-METHOD
FOR DETECTION OF ASYMPTOMATIC PATHOLOGIES
IN GYNAECOLOGY"

Author of the dissertation: Dr. Vilislava Robert Ivanova

Scientific advisor: Prof. Dr. Emil Georgiev Kovachev, MD, PhD, DSc

The dissertation presented for defense contains a total of 116 standard pages and is illustrated with 27 tables and 5 figures. The reference list includes 228 primary sources, of which there 9 are in Cyrillic and 219 are in Latin script.

Relevance of the Problem

In her dissertation, Dr. Vilislava Ivanova has worked on a topic of undeniable relevance. Gynaecological diseases affect millions of women worldwide and have a significant impact on their reproductive health. Early and accurate diagnosis is crucial for effective treatment. Ultrasound technology has revolutionized the field of gynaecology, allowing doctors to visualize and diagnose various conditions with great precision. One of the main advantages of ultrasound is its ability to provide real-time imaging, enabling gynaecologists to observe pelvic organs in motion. This capability for dynamic imaging is particularly useful for evaluating the function and positioning of the uterus and ovaries. Furthermore, it is a widely accessible, safe, and cost-effective imaging method.

The lack of a more complex research in Bulgaria motivated Dr. Ivanova to conduct this study. This was her attempt to highlight the specific importance of modern ultrasound diagnostics in detecting asymptomatic pathologies in gynaecology and to contribute to the further optimization of ultrasound assessment and prevention of gynaecological diseases.

A quick look on the literature overview clearly shows that the doctoral candidate has thoroughly studied a variety of contemporary literary sources, with 228 of them in Latin script and 9 in Cyrillic, all from the last 10 years. The overview has good cognitive value, it is logically built, and can serve as a foundation for the development of the dissertation work. It describes the characteristics of medical ultrasound technology, the role of ultrasound diagnostics in gynaecology, and the gynaecological pathologies identified via ultrasound examination.

The purpose of the present dissertation work is to investigate the diagnostic value of pathological ultrasound findings of the female reproductive system in asymptomatic and symptomatic women.

The objectives of the dissertation are clearly formulated and consist of six tasks, with particular interest in tasks 1, 2, 3, 4 and 5 namely:

1. To analyze the prevalence of gynaecological diseases diagnosed via transvaginal ultrasonography (TVU), with or without clinical symptoms.
2. To follow-up the frequency of specific complaints from the female patients.
3. To examine the age distribution of patients with gynaecological diseases.
4. To study the frequency of past diseases and surgical interventions in patients with gynaecological diseases.
5. To analyze the frequency of comorbidities in patients with gynaecological diseases.

A retrospective study was conducted on 564 female patients who visited SBAGAL "Prof. Dr. D. Stamatov" – Varna Ltd. between September 1, 2020, and September 30, 2022. The study was carried out as part of a joint program with the Municipality of Varna, titled "Prevention of Women's Health – Transvaginal Ultrasound." A free of charge examinations for women was offered.

The inclusion criteria for this study was the patient's informed consent. Exclusion criteria included: refusal to participate, pregnancy, significant vaginal atrophy, patients who have not yet begun sexual activity (virgo intacta), and vaginal obstruction due to congenital anatomical anomalies. The examined and monitored patients were divided into two groups: women of reproductive age and those in menopause. For all patients, a registration form and a pelvic ultrasound examination form were completed.

To achieve the set objectives, Dr. Ivanova used the following methods:

1. Detailed medical history
2. Transvaginal ultrasonography
3. Various statistical methods were applied (descriptive and variation tests, graphical analysis).

The "Results and Discussion" section is presented in five subsections in accordance with the objectives of the dissertation, which provides clarity to the presented data. The results are summarized in tables and figures that illustrate the conclusions drawn by the author.

The doctoral candidate examines the gynaecological diseases and complaints of the patients, the age distribution of patients with gynaecological diseases, past illnesses and surgeries, experienced by the patients, their comorbidities, and the relationship between gynaecological diseases and the delivery method.

The author finds that in the group of asymptomatic patients, the most frequently detected conditions are uterine fibroids (in 15.16% of cases), endometrial polyps (in 5.94%), and adnexal formations (in 4.71%). Among patients with clinical symptoms, endometrial polyps (in 19.74%), uterine fibroids (in 17.11%), and adnexal formations (in 15.79% of cases) are most commonly diagnosed. Pathological findings via TVU were absent in 47.37% of symptomatic and 74.18% of asymptomatic women.

The most common complaints from women due to gynaecological issues were lower abdominal pain, vaginal discharge, heavy menstrual cycles, urinary incontinence, hot flashes, vaginal discomfort, and bleeding.

The most frequent comorbidity during the entire study period was arterial hypertension, followed by diabetes mellitus, breast cancer, and Hashimoto's thyroiditis. Five patients had two comorbidities, and one patient had even three serious comorbidities. In total, there were 26 comorbidities identified during this period among 60 patients (10.64% of all cases). The number of comorbidities in 2020 was 14 in 36 women (9.07%), and in 2022, it was 17 in 23 women (13.77% of cases).

During the study, TVU identified pathological findings in 83 out of 310 women who had delivered by cesarean section (26.77%), in 38 out of 131 women with normal deliveries (29.01%), and in 121 out of 441 women (27.44% of cases)

In conclusion, Dr. Vilislava Ivanova emphasizes that the diagnostic value of TVU for detecting pathological findings of the female reproductive system in asymptomatic and symptomatic women of different ages has been analyzed. Three significantly more common gynaecological conditions that require timely therapeutic intervention have been identified: uterine fibroids, endometrial polyps, and some adnexal formations. The number and relative number of asymptomatic cases were significantly predominant, which proves the importance of preventive examinations. The advantages of ultrasound diagnostics for the prevention of gynaecological diseases have been demonstrated without a shadow of doubt. TVU is a cost-effective, safe, and non-invasive method with no associated risk or side effects. This study could encourage the broader application of modern ultrasound diagnostics for effective prevention of socially significant gynaecological diseases.

Notes and Recommendations

Dr. Vilislava Ivanova has taken into account the critical remarks and recommendations I made.

Conclusions and Contributions

As a result of the analysis conducted in the proposed dissertation, five conclusions can be drawn, such as :

1. Contemporary ultrasound diagnostics contribute to the identification of a large number of gynaecological diseases in both symptomatic and asymptomatic patients.
2. The three most common gynaecological conditions diagnosed via TVU are uterine fibroids, endometrial polyps, and adnexal formations.
3. Clinical examination of women reveals a significant number of complaints, comorbidities, past diseases, and surgical interventions performed.
4. There is a significant predominance of disorders of the female reproductive system in the active and creative age between 40 and 49 years.
5. It has been statistically established that there's no correlation between the identified pathological ultrasound findings and the method of childbirth.

Original Contribution of the Dissertation

The original contribution of the dissertation should be highlighted as follows:

For the first time in Bulgaria, a regional prophylactic ultrasound investigation of women with gynaecological diseases is performed.

The other contributions mentioned by the doctoral candidate have confirmatory nature.

Brief Biographical Information

Dr. Vilislava Robert Ivanova was born in 1983 in Varna, Bulgaria. She completed her secondary education at the 5th Foreign Language High School "Yoan Exarch," where she studied French. In 2012, she graduated from the Medical University of Varna with a degree in Medicine. Since 2013, she has been a resident in Obstetrics and Gynaecology at the Medical University of Varna, with training at SBAGAL – Varna, and she obtained her specialization in Obstetrics and Gynaecology in 2019. After successfully passing a competition in 2016, she became a full-time assistant at the Department of Obstetrics and Gynaecology. Dr. Ivanova has held positions as an assistant in the Department of Obstetrics and Gynaecology at the Medical University of Varna and as an obstetrician-gynaecologist at SBAGAL - Varna, Maternity Department, from 2016 to 2024. Dr. Vilislava Ivanova is proficient in written and spoken English, German, and French. She is a member of: BLS (Bulgarian Medical Association), BAMIG (Bulgarian Association of Obstetricians and Gynaecologists).

gists), ISOUG (International Society of Ultrasound in Obstetrics and Gynaecology), BAUAG (Bulgarian Association of Urogynaecologists), BDAG (Bulgarian Society of Obstetrics and Gynaecology).

Conclusion

The dissertation presented by Dr. Vilislava Ivanova meets the criteria for a scientific work with clinical and practical focus in terms of development approach, execution methods, content, and presentation format. The author's conclusions are well illustrated in the text with figures, diagrams, and tables.

The presented dissertation titled "PROPHYLACTIC ULTRASOUND EXAMINATION-METHOD FOR DETECTION OF ASYMPTOMATIC PATHOLOGIES IN GYNAECOLOGY" is relevant, timely, and meets the scientometric criteria, as well as the regulations for academic development at the Medical University of Varna for awarding the scientific and educational degree of "Doctor."

With deep respect, I recommend to the esteemed members of the Scientific Jury to vote positively for awarding the scientific and educational degree of "Doctor", in the scientific specialty of "Obstetrics and Gynaecology" to Dr. Vilislava Robert Ivanova.

Varna
MD

Assoc. Prof. Dr. Kremen Tsvetkov, |

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